DETERMINATION OF TOTAL PHENOLIC CONTENT OF *Portulaca grandiflora*

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ABSTRACT

DETERMINATION OF TOTAL PHENOLIC CONTENT OF *Portulaca grandiflora*

Portulaca grandiflora is a herbaceous succulent plant that grows widely in many parts of the world especially in temperate climate regions. It is generally planted commercially as an ornament due to its variety of flower colours such as yellow, red, orange and white. However, its other importance is not extensively discovered. Thus the study aimed to determine and compare the phenolic composition of the different parts of the plant that are leaf, stem and root and therefore could help widen the importance of *P. grandiflora*. The study was divided into two parts; qualitative and quantitative. Ferric chloride test was done for qualitative phenolic screening while Folin-Ciocalteu test was done for quantitative phenolic determination. Gallic acid was used for standard curve preparation. The results of former test indicated that leaves and stems extracts showed positive reaction towards aqueous iron (III) chloride through the change of colours from green into greenish black. Root extract indeed reacted positively from brown to greenish black. Other than that, through Folin-Ciocalteu method, it is known that among the three extracts, leaves extract contain the highest phenolic content that is 85.9222 ± 0.0192. This is followed by stems with 21.9347 ± 0.0300 and roots with 10.1927 ± 0.0081. Further analysis then proved that there were significant difference between leaves and stems, leaves and roots as well as stems and roots. Thus, it is concluded that different parts of *Portulaca grandiflora* contain secondary metabolites that is phenolic compound with the highest concentration found in leaves.